PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing *(day/month/year)*	08 MARCH 2005 (08.03.2005)
Applicant's or agent's file reference: 234	FOR FURTHER ACTION: See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/KR2004/003309	15 DECEMBER 2004 (15.12.2004)	16 DECEMBER 2003 (16.12.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 C07D 211/90

Applicant

SK CHEMICALS, CO., LTD. et al

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [x] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [x] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR
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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material
   - ☐ a sequence listing
   - ☐ table(s) related to the sequence listing

   b. format of material
   - ☐ in wirtten format
   - ☐ in computer readable form

   c. time of filing/furnishing
   - ☐ contained in the international application as filed.
   - ☐ filed together with the international application in computer readable form.
   - ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additioanl copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-11	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-11	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

2. Citations and explanations :

The present invention relates to amlodipine gentisate(2,5-dihydroxy benzoate). The following documents have been considered for the purpose of this report;

D1 : EP 244944 A2

D2 : WO 02/79158 A1

D3 : WO 03/89414 A1

D1 discloses various pharmaceutical salts of amlodipine including mesylte, besylate, tosylate, succinate, salicylate, maleate, acetate.

D2 discloses amlodipine camsylate and D3 discloses amlodipine nicotinate.

1. Novelty

None of the prior art describes amlodipine gentisate. Therefore, the present invention may be considered as novel over the available prior art(PCT Article 33(2)).

2. Inventive Step

As salicylic acid salt which is different from gentisic acid salt only in hydroxy substituent in benzen ring is disclosed in D1, those skilled in the art replace salicylic acid with gentisic acid without difficulty.

Moreover, the surprising effect of gentisate salt cannot be acknowledged from the comparative test in the description.

Although the tables 6 and 7 show two times more potent activity of gentisate salt, the result is not accurate comparison since the besylate salt is racemic mixture while gentiate salt is (S)-isomer. The method of preparation claimed in claims 3-8 is considered to be a conventional technique in this field because the applied process is also disclosed in D2 and D3.

Consequently, the inventive step of the present invention cannot be acknowledged(PCT Article 33(3)).

3. Industrial Applicability

The present invention appears to be industrially applicable(PCT Article 33(4)).

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Box No. VI Certain documents cited

1. Certain published documents (Rule 43bis.1 and 70.10)

Application No. Patent No.	Publication date *(day/month/year)*	Filing date *(day/month/year)*	Priority date (valid claim) *(day/month/year)*
KR 2004-100696 A	02/12/2004	23/05/2003	

Document KR 2004-100696 A, filed on 23/05/2003, published on 23/05/2003 does not constitute the prior art within the meaning of Rule 64.1(b) PCT, but discloses all the feartures of the present application.

2. Non-written disclosures (Rule 43bis.1 and 70.9)

Kind of non-written disclosure	Date of non-written disclosure *(day/month/year)*	Date of written disclosure referring to non-written disclosure *(day/month/year)*

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

In table 7, "S-(-)-amlodipine besylate salt" is misworded for "S-(-)-amlodipine gentisate salt".